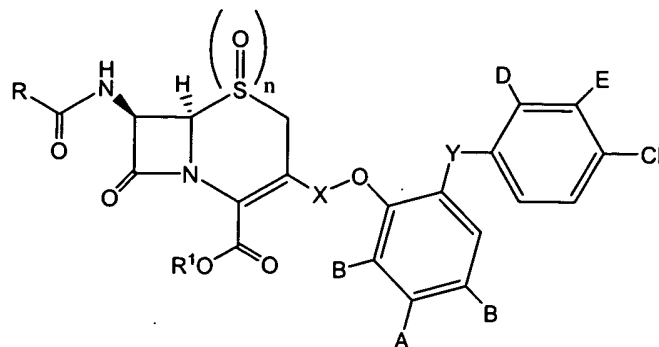


### ABSTRACT

The present invention relates to chemical compounds having the general structure:



wherein R, R<sup>1</sup>, X, Y, A, B, D, and E are defined herein, The compounds are improved  $\beta$ -lactam antibiotics